11-14-2013

The Effects of Video Self-Modeling on a Student with Autism Spectrum Disorder

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By

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Action Research
Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Arts in Special Education
At Cardinal Stritch University
Milwaukee, WI
2013

This action research has been approved for Cardinal Stritch University by:

Margaret M Lyper

Date: November 13, 2013

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Chapter 1

Introduction

Over the course of the school day, students participate in a great number of activities and are expected to internalize routines and successfully transition from one activity to another. For most students, these routines and transitions are learned quickly and are completed seamlessly. However, for students with autism, these new activities and transitions can be confusing and overwhelming. For some individuals with autism, it can take a great deal of time and a large number of repetitions to internalize a new routine or understand the process of transitioning from one activity to another or one location to another. Some strategies are helpful to prepare students for upcoming changes, such as visual schedules, verbal foreshadowing of events, etc. For students with autism, however, these tools may not be effective on their own and more intensive training may be necessary. In an effort to help students with autism, this paper studied the effects of video modeling and video self-modeling as it pertains to students with autism transitioning throughout their school day.

Purpose of the Study

The purpose of this study was to examine the effects of video self-modeling on a student with autism who had difficulty transitioning from a preferred activity to a less preferred activity. The major question examined in this study was as follows: Is video self-modeling a useful tool in teaching individuals with autism how to successfully transition from one activity to another? Video modeling employs the use of videos to teach new skills. Students watch videos of someone successfully completing a task to increase their understanding of each step of the task. When the individual in the video is the student himself, this is referred to as video self-modeling.

In this study, the researcher investigated the effects of video self-modeling on a student with autism and his ability to successfully transition from one activity to another.

The student who participated in this study struggled with transitions. It was hypothesized that he would benefit from a new tool to help him successfully transition throughout the day. In addition to benefitting the student participant, this research also had the potential to provide educators with valuable information about a tool that could be used to introduce new activities to students and prepare them for transitions. Students are expected to move from place to place throughout the building on a very regular basis. For students with autism, video modeling may make those transitions more concrete and easier for them to navigate. It has the potential to decrease problem behaviors and increase independence. The use of video self-modeling introduces the added element of increased engagement as a result of watching oneself complete the desired task. By using video self-modeling, it was hypothesized that the student in this study would be more motivated by watching himself successfully complete a transition on the video.

Scope and Limitations

The participant in this study was a seven year old first grade student with a medical and educational diagnosis of autism and a speech and language impairment. He is identified as a white male and attends a school in a suburban district with 11% of students qualifying for a free or reduced lunch. Although video modeling can be used to teach a variety of skills, for the purpose of this study, the researcher focused on the use of video self-modeling in understanding transitions. Baseline data was collected at the start of the study to determine how frequently behavioral incidents were occurring during transitions. Behavioral incidents included behaviors such as yelling, dropping to the floor, pinching, biting, and running away. Once the study had

begun, data was collected for one hour per week during which time the examiner kept note of the number of successful and unsuccessful transitions. All data collection was done in the morning because academic content was being presented during that time.

Each morning, for the duration of the study, the student was shown a video that lasted approximately a minute and a half, within the first 30 minutes of his day. The video demonstrated the student successfully transitioning from a preferred activity to a teacher-directed activity. In addition to the self-modeling video, there were visual cues used to assist the student in transitioning. These were cues that he was familiar with and had been using since the onset of this school year. Specifically, he was shown pictures of the location that he was to transition to (e.g. he was shown a picture of the art room when it was time to go to art). He was also shown a visual countdown strip that provided him with visual representation of counting down from five to one when his time with his preferred activity was coming to an end. The use of the countdown strip was demonstrated in the video.

One limitation to this study was the size of the sample group. Instead of a large number of participants, there was only one student that participated. Given the nature of the study, the information that was obtained was whether or not the intervention was successful for this particular student. Although it had the potential to show that video self-modeling was a useful strategy, given the individualized approach and small sample number, it may be difficult to apply that information to a large number of students. In addition, there were some time constraints with the study only lasting 12 weeks, which could have affected the amount of change in the student's behavior.

Definitions

Autism – A developmental disability that affects an individual's ability to communicate and form social relationships.

In Vivo – Using live models to demonstrate a desired behavior.

Reciprocal Imitation Training (RIT) - A strategy designed to teach children with autism that imitation can be intrinsically motivating.

Transitions – The act of moving from one activity to another or moving from one room to another.

Video Feedback – Recording an individual completing a target behavior and co-reviewing the video so that the individual has the opportunity to evaluate his or her actions or behaviors.

Video Modeling – A video presented to an individual to demonstrate a desired behavior that he or she can then imitate.

Video Self-Modeling – A video of oneself in which he/she is completing a desired behavior.

Summary

Although transitions and participating in new routines and activities is part of daily life at an elementary school, students with autism often have a hard time making sense of this dynamic environment. Although there are tools that can be helpful for them, for some students, more intensive interventions are needed. This study examined the effectiveness of video modeling and video self-modeling in teaching a student with autism how to transition from one activity to another.

Chapter 2

Historical Framework

Research has shown that modeling desired behaviors for individuals with autism can be a useful strategy for teaching new skills. However, that strategy alone does not allow for the level of repetition that so many students with autism need to master a skill. By recording the desired behavior using video modeling or video self-modeling, the number of repetitions can be increased dramatically and skill acquisition can become more attainable for some students.

Review of Literature

Video modeling has been used for a number of years to teach several types of skills. In more recent years, the strategy has been used as a tool for teaching individuals with autism the steps necessary to complete many different types of tasks. In 1995, Lasater and Brady used video modeling to improve task fluency of self-help skills of two boys with developmental disabilities. Results of that study indicated increased task fluency, ability to generalize the skills to other tasks that were not exposed during the training, and a decrease in task-interfering behaviors. It was also noted in the study that the participants were able to maintain the effects of the training that they received after the video training was removed.

In 2000, Charlop-Christy, Le, & Freeman compared video modeling with in vivo modeling. In vivo modeling was defined as using live models to demonstrate the target behavior. Participants were instructed in academic, language, and social skills tasks using the two methods of instruction. It was concluded that video modeling took less time and was more cost efficient than in vivo modeling, with video modeling training and implementation taking about a third of the time that in vivo training and implementation did. In addition, the cost

associated with hiring models for the video model was about half of the cost of employing live models for the in vivo modeling.

In 2003, Hitchcock, Dowrick, & Prater researched the effects of video self-modeling on improving academic skills and behaviors. Specifically, they reviewed 18 studies that used video self-modeling in a school-based setting. With the exception of two studies reviewed, the studies demonstrated an increase in targeted behaviors and academic skills in children both with and without disabilities. In 2005, Apple, Billingsley, & Schwartz examined the effects of using video modeling to teach compliment-giving behaviors to children with high-functioning autism spectrum disorder. In addition to looking at video modeling as a tool for increasing students' ability to compliment others, the researchers also examined the use of video modeling in conjunction with a self-management system in which the students tracked their progress by counting the number of compliments they gave to others. It was noted that there was an increase in the children's independence when they were expected to monitor their initiations of compliments. Maione and Mirenda (2006) examined the effects of both video modeling and video feedback and the effects the two methods had on social language. In the study, video feedback was defined as "videotaping the target individual performing specific behaviors and then co-reviewing the videotape so that the person can evaluate his or her own behaviors" (p. 106). In the study, the participant with autism was paired with a peer and introduced to three different play activities. Through these play activities, social language was encouraged and tracked. The results indicated that video modeling was effective on its own for the acquisition of language skills in two activities introduced, but the use of video feedback was necessary to improve social language with the third activity.

In 2007, Buggey provided information on the applications of video self-modeling both in school and home settings. Specifically, discussion centered around the logistics of creating a self-modeling video. At the time of publication, Buggey discussed how to use a camcorder and VCR to create a tape of the individual skills to be targeted. Buggey referenced the introduction of iMovie which was available on Macintosh computers at the time and indicated that technology was becoming easier to use and much less expensive.

In 2010, Cardon and Wilcox researched the success rate of video modeling as it compared to reciprocal imitation training with young children with autism. Cardon and Wilcox explained that reciprocal imitation training (RIT) is a strategy designed to teach children with autism that imitation can be intrinsically motivating. In RIT interventions, the adults imitate the child's actions and the adult verbally describes the actions they are engaging in. It was found that individuals instructed using video modeling demonstrated a rapid improvement in their imitation skills, whereas individuals that were instructed using reciprocal imitation training progressed at a slower, steadier pace. Kleeberger (2010) also looked at teaching imitation skills to a child with autism. In this study, Kleeberger explained that previous studies had indicated that multiple strategies had to be incorporated in conjunction with video modeling due to the fact that video modeling alone was not shown to be effective. Additional interventions were used throughout the study including prompting and reinforcement in stages 2 and 3 of the study. It was also noted that the research participant walked away from the video on a few occasions, appearing to not be focused on the video.

Comparing Video Modeling and Video Self-Modeling

Although history indicates a good deal of success using video modeling, the question still remains regarding whether video modeling or video self-modeling has more potential to provide

a higher level of engagement for the participant in the current study. A review of literature indicates advantages and disadvantages of both methods.

Marcus (2009) provided a comparison of peer video modeling and video self-modeling to teach textual responses to children with autism. The study included three participants ranging in age from 4 to 9 years old, all diagnosed with autism. Participants were introduced to Greek and Arabic letter cards that they had not previously been exposed to. Two videotapes were created for each participant, one using peer video modeling and one using video self-modeling. Results indicated that participants were able to demonstrate the ability to identify the letters to mastery criteria when they were instructed using video self-modeling, while only one participant met mastery criteria for letter identification in the peer model condition. It was also noted that the participant that met mastery criteria in the peer modeling condition reached that same level of mastery criterion more rapidly in the self-modeling condition.

Cihak and Schrader (2008) compared video self-modeling with video adult modeling for task acquisition and maintenance. In the study, Cihak and Schrader instructed four adolescents in the acquisition and maintenance of vocational and prevocational skills. Cihak and Schrader found both methods to be effective. One participant performed more effectively from the use of video self-modeling while the remaining participants did not demonstrate a functional difference between the methods. When interviewed, all participants reported that they preferred watching themselves.

Bellini, Akullian, & Hopf (2007) used video self-modeling to increase social engagement in young children with autism. The study showed that the intervention led to increases in social engagement. These improvements in social engagement were notable because the improvement in social engagement was reported to occur in the child's natural setting, his preschool

classroom, rather than in a controlled, clinical setting. It was also noted that this study was completed without the use of other strategies, such as providing reinforcement or additional prompts.

Bellini and McConnell (2010) examined the use of video self-modeling as a strength-based educational program to be used in the school setting. They indicated that the use of video self-modeling provides a unique opportunity for individuals on the autism spectrum to view themselves successfully completing a targeted behavior. As a result of watching themselves successfully complete these desired tasks, the focus switches to what the child is capable of rather than what the child struggles with. Bellini and McConnell also noted that the increase in technology has made devices to create video self-models much more accessible than they were in the past. With the availability of cell phones and other mobile devices, individuals have more access to video recording devices than were previously available.

Summary

Using modeling to teach new skills has shown to be effective with students with autism. Although there are other strategies that have been successful in the acquisition of social and behavioral responses, video modeling has shown to be both effective and efficient. After examining the literature and looking at the comparison between video modeling and video self-modeling, the evidence suggests there are several benefits t to using video self-modeling in comparison to video modeling. It is because of this information that the study that follows examined the effectiveness of using video self-modeling to teach an individual with autism to transition more successfully from one activity to another in the school environment.

Chapter 3

Design

The purpose of this study was to look at the effects of video self-modeling on a student with autism who had difficulty transitioning from a preferred activity to a less preferred activity. Specifically, it examined the effectiveness of using video self-modeling to teach a student how to transition from one activity to another with fewer behavioral incidents. The independent variable in this study was the use of video self-modeling and the dependent variable was the percentage of successful transitions. For the duration of the study, the same visual prompts and aids were provided during transitions that he had access to previously. These visual cues were pictures of the location or classroom that he was expected to transition to (if the transition required him to move to a different room). For example, if he was expected to go from his classroom to the library, a picture of the library was shown to him. For transitions within the classroom, the visual aids were in the format of a visual schedule that the student used throughout his day. This schedule broke down the expected activities of his day by task with pictures or symbols of the upcoming activities. For example, the symbol for writing was a piece of paper with a pencil. Additionally, when transitioning from a preferred activity, such as coloring, to a teacher-directed, less preferred activity, a visual countdown strip was used. This tool was a strip of paper with the numbers one through five written on it. On top of each number, there was a flap that covered it and was secured with Velcro. This was used in conjunction with a verbal countdown so that as a teacher was saying, "five, four, three, two, one," the flaps would be closed to visually prompt him that the activity was almost over. These prompts were provided in an attempt to maintain consistency with his typical daily routine and to examine the specific effects that the video modeling had on his ability to transition successfully. Additionally, the researcher was the sole

data collector in the study to ensure that transitions were being tracked consistently across the study.

Sample

This study consisted of a seven year-old male with autism. This student had a history of struggling with transitions and exhibited many behaviors when moving from one activity to another. Some of these behaviors included dropping to the floor, yelling/screaming, pinching, biting, hitting, kicking, and running from the area. The student has limited verbal language and uses a variety of tools to communicate, including verbalizations, an iPod, and picture icons. He spends a portion of his day in the general education environment and a portion of his day in the special education room. During his time in the special education room, he receives specialized academic and behavioral instruction. In addition, he receives speech and occupational therapy.

The school district that the student attends identifies 76.9% of students as White, 0.3% as Native American, 11.3% as Asian, 4.5% as Black, 4.8% as Hispanic, and 2.2% as having two or more races or ethnicities. 4.1% of students are English Language Learners and 11% of students are receiving free or reduced lunch. The participant's family identified him as White, and he exhibited satisfactory physical and mental health to attend school. Because of the nature of the study, it was necessary to select students with autism that struggled with transitions. As a result, the researcher was limited when choosing participants and selected him from the students that were already on the researcher's caseload of students. It should be noted that due to the specific nature of the study and the limited number of participants, it was difficult to generalize the results of the study to other individuals. This study provided information regarding the usefulness of this strategy with this specific student on the autism spectrum and could also be a potentially useful strategy to try with other students with autism that struggle with transitions.

Procedures

At the onset of this study, the self-modeling video was made. The video was filmed during a natural transition in the student's day and demonstrated him successfully completing a transition that required him to move from a preferred activity (coloring) to a teacher-directed, less preferred activity (spelling work). The video was created on an iPad with the use of iMovie. The researcher took a video of the entire successful transition and then recorded dialogue over the video. The dialogue indicated what behavior was expected of the student during transition. For example, it was stated in the video that the student should keep his body calm when moving from one activity to another. In addition, there was calm music playing in the background of the movie. The dialogue was done in first person language so that it was as if the student was thinking the thoughts about himself. For example, "I can move from one activity to another. I will keep my body calm." The student watched the minute and a half video of himself every morning, within the first 30 minutes of his day, for the duration of the study. During transitions from one part of the building to another, the student was shown a picture of the location that he was headed to. These picture prompts had been used with the student during times of transition throughout the duration of the school year and provided him with clarity as to where he was being asked to go. Data was collected by the researcher for one hour per week, in the morning. The hour and the day of the week that the data was collected varied from week to week based on the researcher's schedule and the student's schedule. During the time of observations, the researcher kept track of the number of successful transitions and the number of unsuccessful transitions. Additionally, when an unsuccessful transition occurred, the specific behaviors that occurred during that transition were noted. Unsuccessful transitions that resulted in disruptive behaviors (biting, pinching, screaming, kicking, running away, other) were documented

throughout the study. The researcher used two forms to document transitions. The primary data collection form provided columns for the date, time, number of successful transitions, and number of unsuccessful transitions. The other form allowed for the researcher to document unsuccessful transitions and the specific behaviors that occurred during that transition. The form included the date, time, and possible behaviors that may occur during an unsuccessful transition and allowed for the researcher to circle the behaviors that occurred. Because of the nature of the school environment, it was not possible for the researcher to be with the student throughout his entire day. For the purpose of the student's Individual Education Plan (IEP), unsuccessful transitions were tracked throughout the day and were documented by the researcher, along with two assistants that work closely with the participant. However, for the purpose of the study, the transitions that were analyzed were those that were observed during the hour-long weekly observations.

Materials

The materials used in this study included the self-modeling video, the transition picture cue cards (that the participant had used for the duration of the school year), and the countdown strip. The participant also had access to his visual schedule that provided him with a greater understanding of the make-up of his day. The self-modeling video was created by filming the student using an iPad and editing it using iMovie. Finally, the data collection forms included a form to record tallies of successful and unsuccessful transitions, and a separate form to record the specific behaviors that occurred during unsuccessful transition.

Data Collection

Data was collected by the researcher for one hour per week through observations of transitions. During this data collection time, the researcher kept tally of the number of successful

and unsuccessful transitions. When an unsuccessful transition occurred, specific information was charted on what behaviors occurred during that time. At the onset of the study, baseline data was collected for one week, prior to the student being shown the video. The following week, the video was shown to the student and data collection continued on a weekly basis for the duration of the study. By having the researcher be the primary data collector, consistency was maintained. There were countless transitions throughout the student's day, however, a one-hour window of time was set aside to track progress with transitions. As part of additional IEP data collection, significant behavioral incidents were tracked, however, the weekly data collected by the researcher was the only data analyzed for the purpose of this study.

Chapter 4

Research Question

What are the effects of video self-modeling on a student with autism spectrum disorder who struggles with transitioning from a preferred activity to a less preferred activity? The following data was collected in response to that question. In this study, video self-modeling was defined as a video of oneself completing a desired behavior. For the student observed in this study, the video illustrated the student successfully completing a transition from a highly preferred activity, to a less-preferred, teacher-directed activity. The data shows that there was an increase of 4.5% in his ability to successfully transition from one activity to another. These successful transitions were defined as transitions in which no unexpected behaviors occurred, such as hitting, kicking, biting, head-banging, or running from the area. The ability to transition successfully from one activity to another without engaging in unexpected behaviors would increase this student's learning time and create a safer environment for him and for others around him in the school.

Supporting Data

In this study, baseline data was collected on five mornings to determine the number of successful transitions and unsuccessful transitions prior to the student being introduced to the video. A transition needed to be completed with no incidents of unexpected behavior to be documented as successful. Table 1 below shows the baseline data collected. The number of transitions varied depending on the time of day that the data was collected and the activity that the class was working on during the time of the observation.

Table 1

Day of Observation	# successful transitions	# unsuccessful transitions	% of successful transitions
1	23	2	92%
2	14	1	93%
3	19	4	83%
4	5	1	83%
5	15	8	65%

Once baseline data was collected, the participant began watching the video every morning in the special education room at the start of his day. The video lasted for approximately one minute and 30 seconds. After the baseline data was collected, over the course of the study, the researcher observed a total of 151 transitions, with 132 successful transitions. Table 2 shows the number of successful transitions, unsuccessful transitions, and percentage of successful transitions. Included in the table is an average of the baseline data. Baseline data indicated that the student was successfully transitioning an average of 83% of observed opportunities, prior to watching the video. Data taken throughout the study varied greatly, ranging from 74% successful to 100% successful. After beginning the video, the student was able to complete an average of 87.5% of observed transitions successfully.

Table 2

Week of Observation	# of successful transitions	# of unsuccessful transitions	% of successful transitions
Baseline (average)	76	16	83%
1	12	0	100%
2	8	2	80%
3	26	1	96%
4	19	2	90%
5	22	2	92%
6	17	6	74%
7	13	1	93%
8	15	5	75%

Figure 1 below shows the percentage of successful transitions on a weekly basis throughout the study. The baseline data points are displayed, with successful transitions ranging from 65% to 93%. Baseline data indicated an average of 83.2% successful transitions and the data collected post-video ranged from 74% success to 100% success.

Figure 1

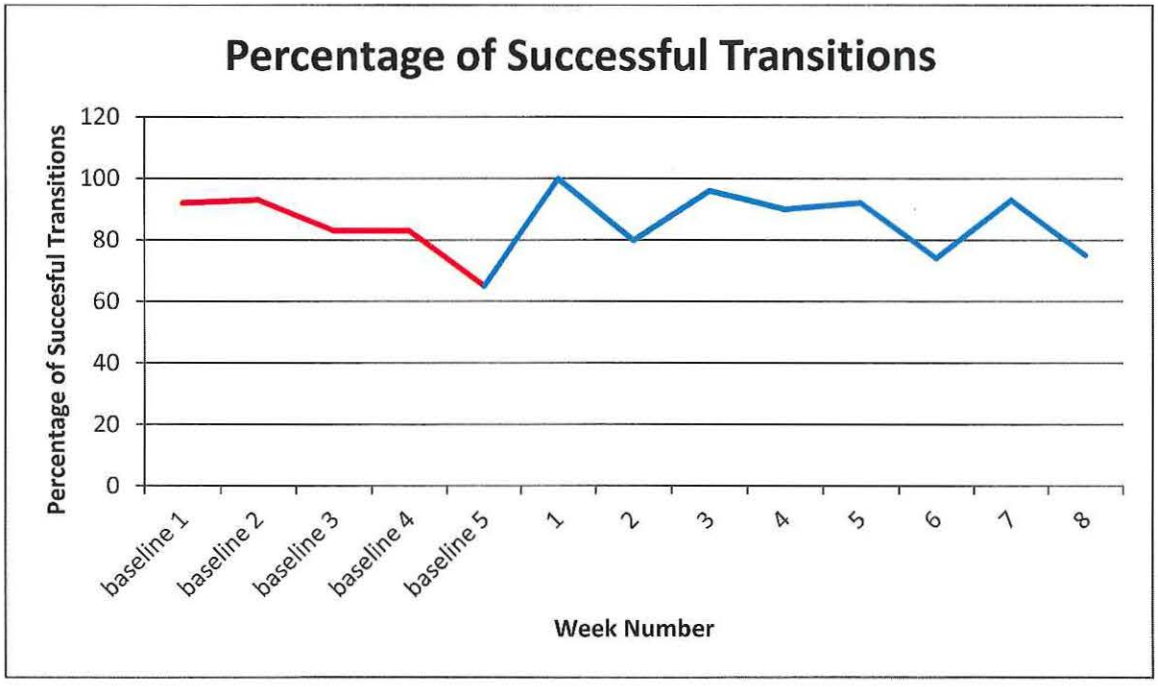
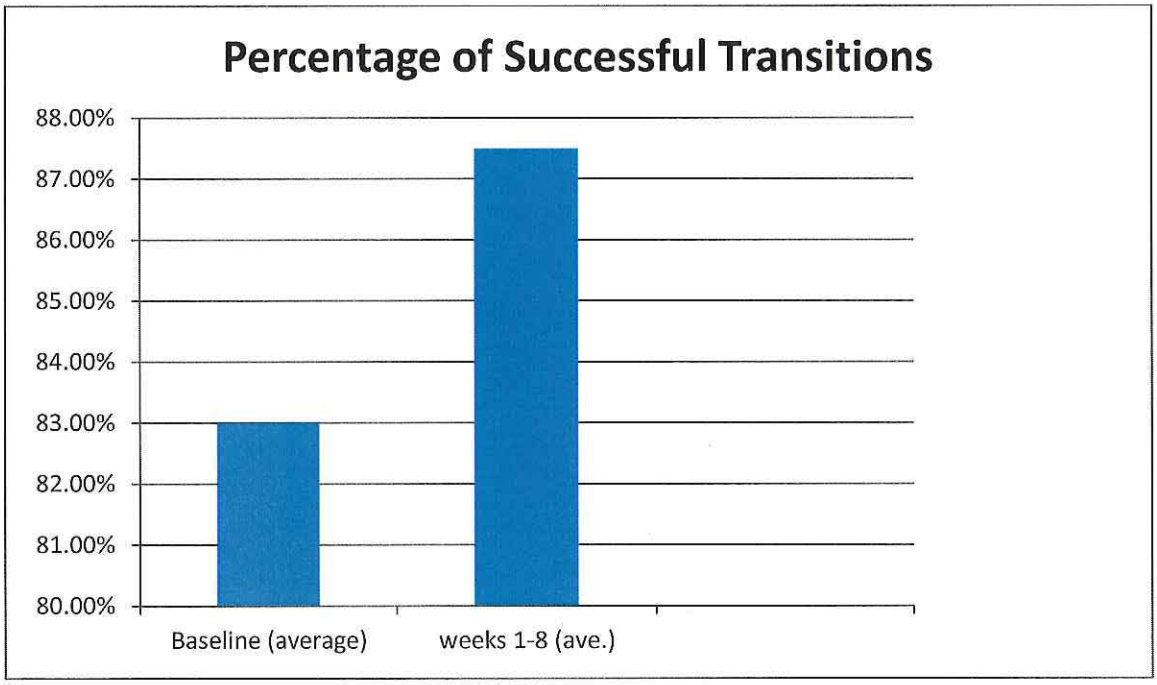


Figure 2 below shows the results of the study pre-video and post-video. The first bar shows the average percentage of successful transitions as collected in the baseline data and the second bar shows the average percentage of successful transitions once the student began watching the video on a daily basis. As can be seen, baseline data indicated that the student was transitioning successfully 83% of the time prior to watching the video. After watching the video on a daily basis, he was able to successfully transition an average of 87.5% of the time, increasing by 4.5%.

Figure 2



In conclusion, the data shows that there was a slight increase in the percentage of successful transitions after the student was exposed to the self-modeling video for the duration of the eight week study. The following chapter discusses some of the challenges and recommendations that resulted from the study.

Chapter 5

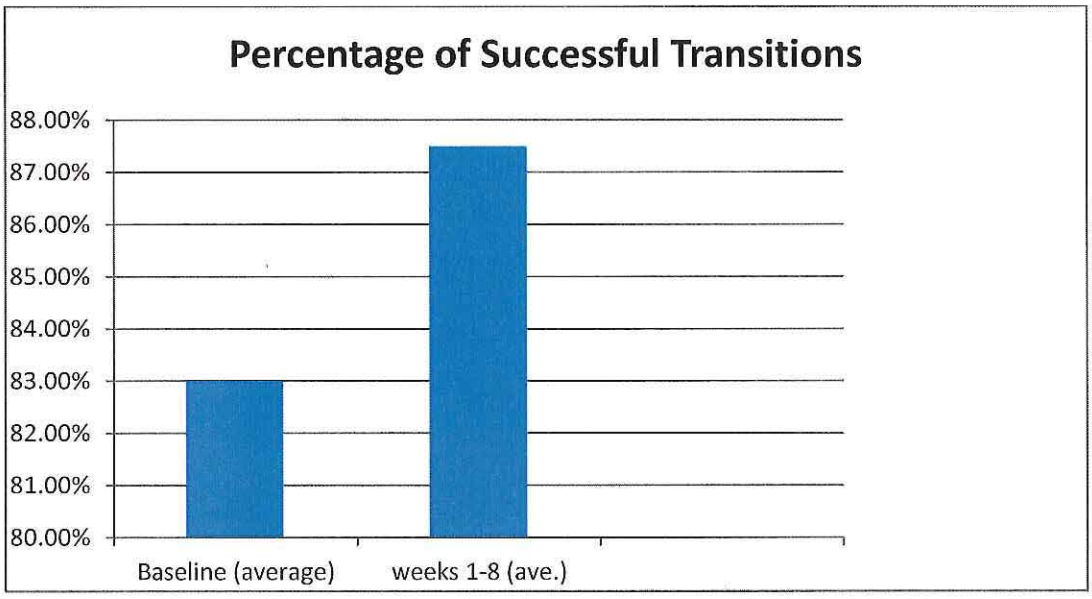
Purpose of the Study

The purpose of this study was to examine the effects of video self-modeling on a student with autism spectrum disorder. Specifically, the study looked at increasing the success rate of transitioning from one activity to another without any unexpected behaviors, such as hitting, kicking, head banging, and running from the area.

Summary of Findings

Baseline data was collected for five days at the start of the study. An average of the data points was determined and it was found that the student was able to successfully transition 83% of the observed opportunities. The student then began watching the self-modeling video which demonstrated him successfully transitioning from a preferred activity to a teacher-directed, less preferred activity. He watched the video every day for the duration of the study.

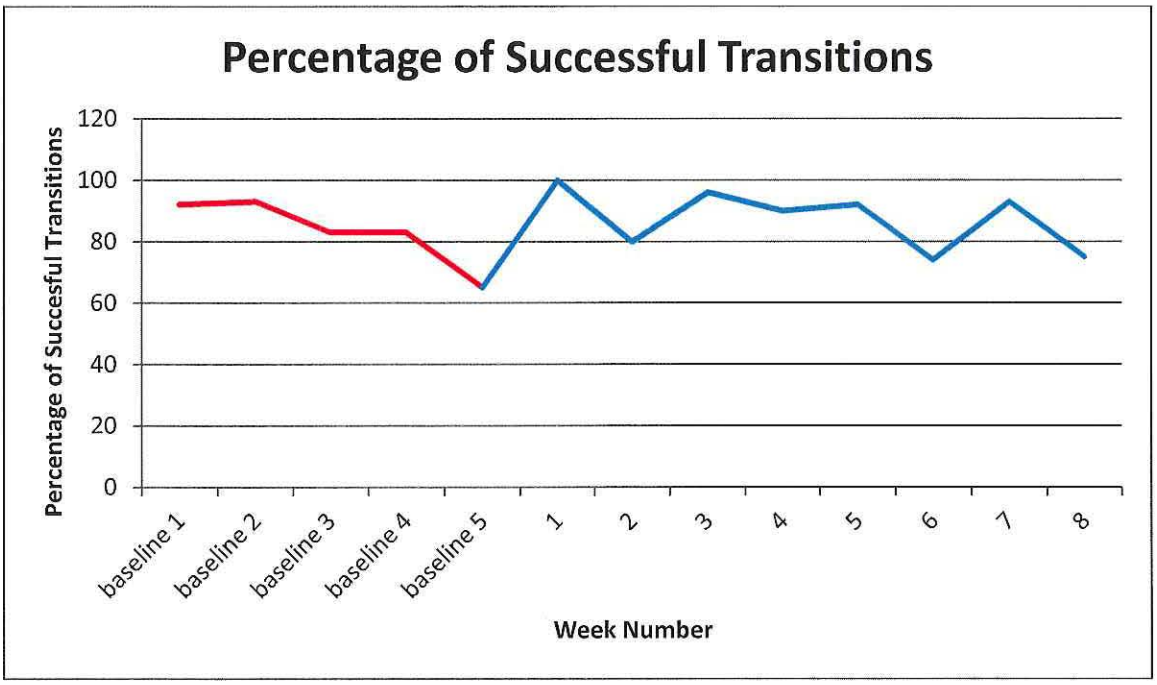
Figure 2



Data was collected on a weekly basis for eight weeks and an average of that data indicated that the student was able to successfully transition 87.5% of observed opportunities at the conclusion of the study. Figure 2 shows the data pre-video and post-video.

The data collected on a weekly basis varied greatly, ranging from 74% success to 100% success. Figure 1 below shows the data plotted out on a week-by-week basis.

Figure 1



Interpreting the Results

Overall, there was an increase in the success rate of transitions when comparing the percentages pre-video and post-video. However, it should be noted that there was great variation in the success rate from week to week. Week one indicated the highest level of success, with the student demonstrating the ability to transition successfully in 100% of observed opportunities. Week 6 indicated the lowest percentage of successful transitions, in which 74% of the transitions

were successful. When baseline data was collected, the student was demonstrating the ability to successfully transition an average of 83% of observed opportunities. At the conclusion of the study, he was demonstrating the ability to successfully transition an average of 87.5% of observed opportunities, indicating an increase of 4.5% in the success rate. Although it shows that there was an improvement in transitions, it also shows that this improvement was relatively minimal. This can partially be attributed to the great variation in data from one week to the next.

Implications of the data

Due to the limited sample size in this study, implications were very specific to the participant. When examining the transition success rate pre-video and post-video, it was found that there was an increase of 4.5%. Although this indicated that the student's ability to successfully transition from one activity to another improved, it was a relatively minimal improvement. In addition, the data was widely scattered from week to week and appeared to be affected by other factors in the student's day. One of the additional factors that potentially affected the outcome of this study was the pain that the student was experiencing as a result of some dental issues. His parents reported that his teeth had been bothering him and that the pain that he was experiencing was affecting his behavior. It should also be noted that the study fell over spring break. This student historically struggled with transitions following a long break from school and the week after spring break he was only able to transition successfully in 74% of opportunities. Autism affects many aspects of an individual, including his or her sensory perception of the world. The student in this study does experience some sensory challenges, for example, sensitivity to loud noises and an aversion to touching items with a seemingly unpleasant texture. Because the student has limited verbal abilities, there are times that it can be assumed that he is responding to sensory challenges, but cannot be confirmed. As a result, some

of the difficulty with transitions could be attributed to responses to his sensory environment rather than difficulties with the transition itself.

The student watched the self-modeling video on a daily basis and seemed to enjoy doing so. This was evident in his level of engagement and willingness to watch the entire video. For this particular student, this is a strategy that could be useful to introduce other skills and may be used to expand his skillset in areas other than transition.

Recommendations

There are several recommendations that can be made from this study. First, the use of video self-modeling appeared to be a very useful strategy. Although there was not specific data taken to look at the engagement level with the student watching a video of himself versus a video of another, daily observations indicated that the student enjoyed watching the video and was highly engaged throughout the study when watching it. For future research, it may be helpful to collect data to determine which method is most reinforcing for individual participants.

Secondly, data collection procedures should be considered. For this study, data was collected on a weekly basis, for one hour. Although this did provide information regarding the success rate of transitions, it perhaps would have been more useful to track the number of unsuccessful transitions throughout the entire study. A comparison then could have been done between the baseline data and data collected at the end of the study to see if there was a decrease in unsuccessful transitions. Of course, this would require several individuals to collect data for the duration of the study and may only be possible for students that require supervision throughout their days.

Finally, continuing the study for a longer period of time would have provided more information regarding the usefulness of self-video modeling. In addition to increasing the length of the study, with more time, it would have been possible to introduce more than one video for the student to watch and perhaps look at more than one skill.

Limitations of the study

There were some limitations of this study that should be taken into consideration. Because there was only one student that participated in the study, the ability to generalize data was greatly limited. Although there are implications that can be drawn in regards to the specific student, looking at a larger population of students with autism is challenging. The results show that video self-modeling was associated with a slight increase in successful transitions for the student in this study, but generalizing those results is questionable. In addition, the length of the study was limiting. It would have been beneficial to continue the study for a longer period of time to get a more accurate indication of the effectiveness of video self-modeling with this student with autism.

In addition to the sample size and length of the study, there were some additional factors that may have affected the results of the study. Over the course of the study, the student went on spring break for one week, during which time he did not watch the self-modeling video. Historically, the student had demonstrated more challenges with transitions following a large break from his typical school routines, so this may have factored into the minimal increase in success rate with transitions. The student also needed some significant dental work done that his mother reported was causing him a great deal of discomfort both before the dental procedure was completed and following it.

Finally, completing a research project and collecting data in a school setting can be challenging with the demands of the other students. As a result, on a couple of occasions during observations, the researcher's attention was diverted due to the needs of other students which may have impacted data collection.

Need for future research

There is a need for future research to look at the effectiveness of video self-modeling to increase successful transitions for students with autism. Future research would benefit from using a larger sample size to increase the ability to generalize findings to a larger population. This study was able to show that video self-modeling was helpful for one particular student. Although it may be possible to deduce that it could be a useful strategy for other students on the autism spectrum, with such a limited sample size, additional research is needed to answer that question. Therefore, it would be useful for additional research to be done in the future to look at the effects of video self-modeling on a wider range of students with autism.

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Transition Data Collection Form

Date	Time	# successful transitions	# unsuccessful transitions

Unsuccessful Transition Data Collection Form

Unsuccessful Transitions		
Date	**Time**	**Behaviors observed**
		Biting pinching Screaming running away Kicking Other:
		Biting pinching Screaming running away Kicking Other:
		Biting pinching Screaming running away Kicking Other:
		Biting pinching Screaming running away Kicking Other:
		Biting pinching Screaming running away Kicking Other:
		Biting pinching Screaming running away Kicking Other:
		Biting pinching Screaming running away Kicking Other: